Lucas Helme

647-451-3443 | lucas.helme@mail.utoronto.ca | linkedin.com/in/lucashelme | github.com/blobcode | blobcode.net

Education

Honours Bachelor of Science, University of Toronto — Toronto, ON
Specialist in Computer Science, Minor in Applied Mathematics — *Expected 2028*

Experience

Software Developer Intern — June 2025 – Present
Flywheel Strategic — *Toronto, ON*

- Worked as a full-stack developer on more than a dozen client projects in .NET, Javascript, and HTML/CSS.
- Automated client site deployment and implemented CI/CD processes with Azure, achieving 90% faster deploys.
- Helped to automate client billing, saving substantial bookkeeping time and reducing human error, ensuring accurate client bills.

Coding Instructor — March 2020 – August 2022
CodeItHacks — *Toronto, ON*

- Taught beginner to intermediate computer science fundamentals in C++, Lua, and Python to children ages 8-16.
- Presented workshop and lesson content for a diverse spectrum of audiences, focusing on imperative programming and introductory ML.
- Worked with an experienced team to develop learning plans for students and to create a cross-classroom working environment.

Projects

PaperGraph | *Python, scikit-learn, spaCy, networkx, Flask, React, PostgreSQL*

- Created a unified reference graph from papers provided on arxiv.
- Developed a high-performance data-processing pipeline for paper downloading and performing citation extraction from PDFs in SpaCy.
- Created a model to determine the correct reference from extracted citations in sklearn.
- Built a web application with the ability to browse the citation graph and search for similar literature with React

Cobalt | *Rust, tokio, serde* | github.com/blobcode/cobalt

- Developed a multithreaded protocol-level reverse proxy in Rust capable of more than 100,000 requests per second.
- Learnt about the inner workings of TCP and HTTP.
- Implemented online config reloading and load balancing.

UofT Course Planner | *Python, html/css, htmx, Flask, or-tools, scikit-learn* | *utcx.blobcode.net*

- Scraped the UofT Academic Calendar and parsed course strings to obtain a graph of all course's prerequisites.
- Used scikit-learn to predict course availability.
- Created a constraint-based model to solve for an optimal course pathway with google's or-tools.
- Deployed the model using htmx and flask for access by other students.

Extracurricular Activities

Software Developer - UTMIST | *go, Docker, CUDA, Redis* — May 2025 – Present

- Developed a distributed, fault tolerant job scheduler and load balancer, taking into account priority and GPU type to run ML workloads.
- Created a custom api and tooling for job submission and tracking.
- Deployed to a custom compute cluster, handling workloads for more than 200 developers.

Software Developer - UTAT Rocketry | *C, C++, MQTT, Python, React* — September 2024 – Present

- Developed hardware drivers as well as realtime multithreaded sampling and analysis software on embedded systems, with sub-millisecond response times.
- Implemented a microservice architecture over MQTT for latent data processing and analysis by other subteams.
- Created a realtime control / data visualization dashboard and interactive P&ID using React and websockets.

Technical Skills

Languages: Python, C/C++, SQL (Postgres / SQLite), JavaScript, HTML/CSS, Rust, Go, C#
Frameworks: React, Node.js, Flask, Django, .NET
Developer Tools: Git, Docker, AWS, Linux, NixOS, Azure
Libraries: networkx, pandas, NumPy, Matplotlib, scikit-learn, Eigen, Boost